

Page 9 at line 13, insert -- Brief Description of the Drawings --

Page 10 at line 12, insert "Detailed Description of the Invention --

IN THE CLAIMS:

Please amend claims 1-36 as follows. A marked-up copy of the claims pursuant to amended 37 CFR 1.121 is enclosed as an attachment.

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1. (Twice Amended) A preform for obtaining, after deformation, a personalized orthodontic or dentofacial orthopedic apparatus characterized by a three-dimensional hollow body which has a form that allows the preform's expansion inside a mold reproducing a morphology of a subject.

2. (Twice Amended) The preform according to claim 1, comprising a hollow tubular or approximately tubular shape.

3. (Twice Amended) The preform according to claim 1, characterized by a hollow, tubular or approximately tubular shape and being cut to form an opening.

4. (Twice Amended) The preform according to claim 1, comprising a thermoplastic or thermosetting plastic material which is deformable through expansion.

5. (Twice Amended) The preform according to claim 4, comprising a thermoplastic material selected from the group consisting of polyethylene,

polypropylene, polycarbonate, methyl polymethacrylate, PVC, and polyurethane, or a thermosetting plastic material selected from the group consisting of methyl polymethacrylate and polyurethane.

6. (Twice Amended) The preform according to claim 1, characterized by a surface with guides comprising bumps or recesses intended to guide a technician during cutting operations and/or initial holes for holding fastening hooks of the dentofacial apparatus.

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7. (Twice Amended) The preform according to claim 1, comprising a flat, developed shape prior to shaping by a technician.

8. (Twice Amended) The preform according to claim 1, yielding after deformation, a Bonnet's Nighttime Lingual Envelope (N.L.E.).

9. (Twice Amended) A process for manufacturing a personalized orthodontic or dento-facial orthopedic apparatus, comprising:

- a) providing a female mold based at least in part on study models created by a practitioner from a casting or castings made from a subject,
 - b) positioning a preform of claim 1 in the female mold,
 - c) expanding the preform to obtain the apparatus having a desired shape,
- and
- d) removing the apparatus from the mold and finishing the apparatus.

10. (Twice Amended) The process according to claim 9, wherein the expanding step of c) is preformed with heat and the preform is brought to a deformation temperature of its constitutive material prior to expansion.

11. (Twice Amended) The process according to claim 10, wherein an expansion temperature is attained by radiation or a heat bearing fluid.

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12. (Twice Amended) The process according to claim 11, wherein the radiation is microwave, ultraviolet or infrared.

13. (Twice Amended) The process according to claim 9, wherein the expanding step of c) is performed by a method for obtaining an expansion of the preform to a desired shape.

14. (Twice Amended) The process according to claim 13, comprising expanding by an expansion fluid or mechanically.

15. (Twice Amended) The process according to claim 14, wherein the expansion fluid is compressed air or water.

16. (Twice Amended) The process according to claim 9, wherein the expanding step of c) occurs by inserting an expansion core in the preform and inflating the expansion core with an expansion fluid.

17. (Twice Amended) The process according to claim 16, wherein the expansion core is a controlled expansion core.

18. (Twice Amended) The process according to claim 16, wherein the expansion core comprises a material resistant to an expansion temperature.

19. (Twice Amended) The process according to claim 9, wherein the preform is made of thermosetting material and the expanding step of c) is simultaneously or later accompanied by a step for polymerization of the thermosetting material.

20. (Twice Amended) The process according to claim 9, further comprising inserting fastening pieces or additional pieces during the expanding step of c).

21. (Twice Amended) The process according to claim 9, wherein the finishing step of d) includes at least one of preparing one or more openings, polishing, anchoring of fastening hooks, setting of additional pieces, elimination of useless parts, or reduction of surface areas.

22. (Twice Amended) The process according to claim 21, wherein the finishing step of d) comprises anchoring the fastening hooks to moveable anchoring points on the apparatus.

23. (Twice Amended) The process according to claim 9, wherein the dento-facial orthopedic or orthodontic apparatus obtained by the process of a preceding cycle, is used as the preform.

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24. (Twice Amended) The process according to claim 9, wherein the personalized orthodontic or dento-facial orthopedic apparatus is a Bonnet's Nighttime Lingual Envelope (N.L.E.).

25. (Twice Amended) An expansion core for a process for manufacturing a personalized orthodontic or dento-facial orthopedic apparatus, comprising:

- a) providing a female mold based at least in part on study models created by a practitioner from a casting or castings made from a subject,
- b) positioning a preform in the female mold,
- c) expanding the preform with the expansion core comprising at least one means of controlling its expansion for obtaining an apparatus having a desired shape, and

d) removing the apparatus from the mold and finishing the apparatus, wherein the preform comprises a three-dimensional hollow body with a form allowing expansion of the preform inside a mold reproducing a morphology of a subject.

26. (Twice Amended) The expansion core according to claim 25, comprising means for controlling its expansion by increasing thickness of its wall in certain areas or introducing rigid reinforcements into its wall.

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27. (Twice Amended) An expansion mechanism for a process for manufacturing a personalized orthodontic or dento-facial orthopedic apparatus, comprising:

a) providing a female mold based at least in part on study models created by a practitioner from a casting or castings made from a subject,

b) positioning a preform in the female mold,

c) expanding the preform with the expansion mechanism so as to obtain an apparatus having a desired shape by displacement of mechanical pieces on the expansion mechanism, and

d) removing the apparatus from the mold and finishing the apparatus, wherein the perform comprises a three-dimensional hollow body with a form allowing expansion of the preform inside a mold reproducing a morphology of a subject.

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28. (Twice Amended) A fastening hook for an orthodontic or dento-facial orthopedic apparatus manufactured according to a process comprising

a) providing a female mold based at least in part on study models created by a practitioner from a casting or castings made from a subject,

b) positioning a preform comprising a thermoplastic material in the female mold,

c) expanding the preform so as to obtain an apparatus having a bent-back segment for inserting the fastening hook, and

d) removing the apparatus from the mold and finishing the apparatus, wherein the fastening hook is inserted into the bent-back segment of the apparatus.

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29. (Twice Amended) A device for attaching a fastening hook according to claim 28 to an orthodontic or dento-facial orthopedic apparatus, comprising means for supplying electrical heating energy and stable mechanical positioning of the fastening hook for anchoring to the apparatus.

30. (Twice Amended) The device according to claim 29, wherein the electrical energy is supplied by a hand-held, portable current generator containing two rigid electrical conductors.

31. (Twice Amended) The device according to claim 29, wherein the stable mechanical positioning is performed with distal ends of electrical

conductors having a clamp shape, and the distal ends are adapted to the diameter of a wire or to a shape of the hook to be inserted.

32. (Twice Amended) The process according to claim 22, wherein the fastening hooks are attached using a fastening mechanism.

33. (Twice Amended) A personalized orthodontic or dento-facial orthopedic apparatus, comprising a preform according to claim 1.

34. (Twice Amended) A personalized orthodontic or dento-facial orthopedic apparatus according to claim 33, comprising a Bonnet's Nighttime Lingual Envelope (N.L.E.).

35. (Amended) The process according to claim 18, wherein the material resistant to an expansion temperature is an elastomer.

36. (Amended) The device according to claim 29, wherein the electrical energy is supplied by a gun that mechanically holds a pair of rigid electrical conductors connected by flexible conductors to a fixed generator.

REMARKS

The Office Action of March 27, 2001 has been received and reviewed, and the comments set forth below are complete response thereto.